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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,897	08/22/2003	Warren M. Farnworth	01-1059.1	1324
22823	7590	01/27/2005	EXAMINER LEWIS, MONICA	
STEPHEN A GRATTON THE LAW OFFICE OF STEVE GRATTON 2764 SOUTH BRAUN WAY LAKEWOOD, CO 80228			ART UNIT 2822	PAPER NUMBER

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,897

Applicant(s)

FARNWORTH ET AL.

Examiner

Monica Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 30days MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 153-261 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 153-261 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This restriction is in response to the application filed August 22, 2003.

Election/Restrictions

2. This application contains claims directed to the following patentably distinct species of the claimed invention:

Embodiment I (Claims 153-179), directed to a semiconductor component, a thinned semiconductor die, a first polymer layer and a second polymer layer;

Embodiment II (Claims 180-188), directed to a semiconductor component, a thinned semiconductor die, a circuit side polymer layer, a plurality of edge polymer layers covering four peripheral edges comprising portions of polymer filled trenches and a back side polymer layer;

Embodiment III (Claims 189-195), directed to a semiconductor component, a semiconductor wafer, a thinned substrate, a planarized circuit side polymer layer, a plurality of semiconductor dice separated by streets, a plurality of polymer filled trenches and a planarized back side polymer layer;

Embodiment IV (Claims 196-208), directed to a semiconductor component, a thinned die, die contacts, a circuit side polymer layer covering the circuit side and the four peripheral edges, a plurality of conductive vias, a back side polymer layer, a second polymer layer and a plurality of terminal contacts;

Embodiment V (Claims 209-213), directed to a semiconductor component, a thinned die, a polymer layer covering the circuit side and a heat sink;

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Embodiment VI (Claims 214-219), directed to a semiconductor component, a thinned die, a polymer layer covering the circuit side a polymer tape and a marking in the polymer tape;

Embodiment VII (Claims 220-226), directed to a semiconductor component, a die, die contacts, a polymer layer covering the circuit side, a protective coating covering the edges and the back side and terminal contacts on the die contacts;

Embodiment VIII (Claims 227-232), directed to a semiconductor component, a thinned die, die contacts, a polymer layer covering the circuit side comprising a first polymer material and a plurality of second polymer layers covering the peripheral edges comprising a second polymer material;

Embodiment IX (Claims 233-241), directed to a semiconductor component, a thinned die, die contacts comprising pin contacts, conductive vias and a plurality of terminal contacts;

Embodiment X (Claims 242-248), directed to a semiconductor component, a thinned die, die contacts comprising tip portions, conductive vias, a plurality of terminal contacts in electrical communication with the vias, a plurality of conductors and a plurality of terminal contacts in electrical communication with the conductors;

Embodiment XI (Claims 249-255), directed to a semiconductor component, a substrate, a thinned die, a first polymer layer covering the circuit side and the edges, a second polymer layer covering the back side and a plurality of terminal

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contacts on the first polymer layer in electrical communication with the die and bonded to the substrate;

Embodiment XII (Claims 256-258), directed to a semiconductor component, a substrate comprising a plurality of terminal leads, a component mounted to the substrate, a thinned die, die contacts, contact bumps, a first polymer layer covering the circuit side the edges and contact bumps, a second polymer layer covering the back side, a plurality of terminal contacts on the contact bumps and a plastic body; and

Embodiment XIII (Claims 259-261), directed to a semiconductor component, a substrate comprising a plurality of terminal leads, a component mounted to the substrate, a thinned die, die contacts, contact bumps, a first polymer layer covering the circuit side the edges and contact bumps, a second polymer layer covering the back side, a plurality of conductive vias, a plurality of terminal contacts and a second semiconductor component substantially identical to the first component comprising second terminal contacts bonded to the contact bumps.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, none are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

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Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee under 37 CFR 1.17(i).

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final

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communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to be 'Mary Wilczewski', written over a dotted line.

ML

January 11, 2005

Mary Wilczewski
Primary Examiner